

***Current as of
September 29, 2011***

APPENDIX D

WORK SCHEDULE MILESTONES AND TARGET DATES INCLUDING DESIGNATION OF LEAD REGULATORY AGENCY

NOTES:

Major Milestones are indicated by a -00 suffix (example, M-021-00).
Interim Milestones are indicated by a suffix greater than zero (example, M-022-02). A target date is indicated by a "T" (example, M-021-02-T01). See Section 2.0 of this Action Plan for more details.

Milestones and target dates which are completed, or have been deleted by an approved Tri-Party Agreement change request, are not displayed in Appendix D and have been archived.

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-015-00	Complete the RI/FS (or RFI/CMS and RI/FS) process for all non-tank farm operable units except for canyon/associated past practice waste site OUs covered in M-85-00. A day for day slip in submitting the Feasibility Study Report and Proposed Plan milestone will be given for each day the RI/FS Work Plan is not approved following six months after submittal.	12/31/2016
M-015-00D	DOE shall complete the RI/FS process through the submittal of a Proposed Plan for all 100 and 300 Area operable units.	12/31/2012
M-015-21A Lead Agency: Ecology	Submit a 200-BP-5 and 200-PO-1 OU Feasibility Study Report and Proposed Plan(s) to Ecology.	06/30/2015
M-015-38B Lead Agency: EPA	Submit a revised Feasibility Study Report and revised Proposed Plan(s) for the 200-CW-1, 200-CW-3, and 200-OA-1 Operable Units for Waste Sites in the Outer Area of the Central Plateau to EPA.	10/30/2014
M-015-62-T01	Submit a Feasibility Study Report and Proposed Plan for the 100-NR-1 and 100-NR-2 Operable Units including groundwater and soil. The FS report and Proposed Plan will evaluate the permeable reactive barrier technology and other alternatives and will identify a preferred alternative in accordance with CERCLA requirements.	09/17/2012
M-015-64-T01	Submit CERCLA RI/FS Report and PP for the 100-FR-1/100-FR-2, 100-FR-3, 100-IU-2, and 100-IU 6 Operable Units for groundwater and soil.	12/17/2011
M-015-68-T01	Submit CERCLA RI/FS Report & Proposed Plan for the 100-BC-1, 100-BC-2 and 100-BC-5 Operable Units for groundwater and soil.	11/30/2011
M-015-70-T01	Submit Feasibility Study Report and Proposed Plan for the 100-HR-1, 100-HR-2, 100-HR-3, 100-DR-1 and 100-DR-2 Operable Units for groundwater and soil.	11/24/2011
M-015-72-T01	Submit CERCLA RI/FS Report and Proposed Plan for the 300-FF-2 and 300-FF-5 Operable Units for groundwater and soil.	12/31/2011
M-015-82	Submit a Treatability Test Plan as an amendment of 200-BP-5 RI/FS Work Plan for determining if a 50 gpm pump-and-treat system can be sustained in the shallow and discontinuous aquifer to contain and reduce the mass of the uranium and commingled Tc-99 plumes near the B, BX, and BY Tank Farms. The plan will include initial aquifer tests to determine sustained yield. If sufficient sustained yield can be demonstrated, treatability testing will follow in accordance with the approved treatability test plan. Initiate aquifer tests within six months of approval of the treatability test plan. Full-scale deployment of the treatment system will be made via the 200-BP-5 RD/RA Work Plan.	12/31/2010

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-015-90	Submit revised RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) & Remedial Investigation/Feasibility Study (RI/FS) work plan for 200-IS-1 OU to Ecology.	12/31/2011
M-015-91A	Submit a Remedial Investigation/Feasibility Study work plan for the 200-WA-1 operable unit (200 West Inner Area) to EPA.	12/31/2011
M-015-91B Lead Agency: EPA	Submit Feasibility Study Report(s) and Proposed Plan(s) for the 200-BC-1/200-WA-1 operable units (200 West Inner Area) to EPA.	12/31/2015
M-015-92A Lead Agency: Ecology	Submit a RCRA Facility Investigation/Corrective Measures Study & Remedial Investigation/Feasibility Study work plan for the 200-EA-1 operable unit (200 East Inner Area) to Ecology.	06/30/2015
M-015-92B Lead Agency: Ecology	Submit Corrective Measures Study & Feasibility Study Report(s) and Proposed Corrective Action Decision(s)/Proposed Plan(s) for the 200-EA-1 and 200-IS-1 OUs (Central Plateau 200 East Inner Area) to Ecology.	12/31/2016
M-015-93A	Submit revised RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) & Remedial Investigation/Feasibility Study (RI/FS) work plan for the 200-SW-2 OU to Ecology.	12/31/2011
M-015-93B	Submit RCRA Facility Investigation/Corrective Measures Study & Remedial Investigation/Feasibility Study Report and Proposed Corrective Action Decision/Proposed Plan for the 200-SW-2 OU to Ecology.	12/31/2016
M-015-110A Lead Agency: Ecology	Submit RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) & Remedial Investigation/Feasibility Study (RI/FS) work plan for the 200-DV-1 OU to Ecology. The work plan shall include technology screening that identifies technologies applicable for characterization, treatment, and monitoring of deep vadose zone contaminants.	03/31/2015
M-015-110B	Submit Corrective Measures Study & Feasibility Study Report and Proposed Plan/Proposed Corrective Action Decision for the 200-DV-1 OU to Ecology.	09/30/2015
M-015-110D	Submit technetium-99 pilot scale treatability study test report(s) as an element of remedial investigation for the 200-BC-1/200-WA-1 OUs to EPA.	06/30/2012
M-016-00	Complete remedial actions for all non-tank farm and non-canyon operable units. Note: See operable unit LRA designation listing in Appendix C. It is assumed that the Record of Decision will be signed 6 months after the public comment period closes on the proposed plan. Per Action Plan Section 11.6 a day-for-day slip in the RD/RA Work Plan due date will be	09/30/2024

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	given for each day the remedy decision is not issued past the 6 month date. The document review, comment and approval process prescribed in the Action Plan of the HFFACO Section 9 will be followed. The schedule for completion of the construction of the remedy will reflect the scope and complexity of the selected remedial action. The schedule for remedial action implementation will be established upon regulatory agency approval of the RD/RA Work Plans and is enforceable as a HFFACO requirement.	
M-016-00A	Complete all interim response actions for the 100 Areas units (except groundwater actions which are covered under Major Milestone M-016-00), with the exception of the 100 K Area, by the specified due date as approved in a Remedial Design/Remedial Action Work Plan. Completion of interim response actions is defined as the completion of the interim ROD or action memorandum requirements in accordance with an approved RD/RA work plan or removal action work plan and obtain EPA and/or Ecology approval of the appropriate project closeout documents.	12/31/2012
M-016-00B	Complete all interim 300 Area remedial actions including the 618-10 and 618-11 burial grounds but not including sites associated with retained 300 Area facilities and the utility corridors. Completion of interim remedial actions for waste sites associated with the retained 300 Area facilities and their utilities are subject to approved Remedial Design/Remedial Action Work Plans. Completion of all interim remedial actions is defined as the completion of the interim ROD requirements in accordance with an approved RD/RA Work Plan and obtain EPA approval of the appropriate project closeout documents. The disposition of impeding surplus facilities will be performed in accordance with Milestone M-094-00.	09/30/2018
M-016-00C	Complete all response actions for the 100 K Area.	12/31/2020
M-016-47	Complete the interim remedial actions for the 100 D Area.	12/31/2011
M-016-51	Complete the interim remedial actions for the 100 H Area.	12/31/2011
M-016-53	Complete the interim response actions for the 100 K Area within the perimeter boundary and to the river for Phase 1 actions. Phase 1 is defined in the 100K Area RD/RA Work Plans.	12/31/2012
M-016-55	Complete the interim response actions for the 100 N Area.	12/31/2012

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-016-56	Complete the interim remedial actions for 100-IU-2 and 100-IU-6 waste sites listed in the 1999 100 Area Remaining Sites Record of Decision (32 sites) as described in the Remedial Design Report/Remedial Action Work Plan.	02/28/2012
M-016-69	<p>Complete all interim 300 Area remedial actions to include confirmatory sampling of all candidate sites listed in the 300-FF-2 ROD (except for 618-10 and 618-11 burial grounds). Completion of interim remedial actions for waste sites associated with the retained 300 Area facilities and utility corridors are subject to approved Remedial Design/Remedial Action Work Plans.</p> <p>Completion of all interim remedial actions is defined as the completion of the ROD requirements in accordance with an approved RD/RA Work Plan and obtains EPA approval of the appropriate project closeout documents. Completion of confirmatory sampling is defined as the completion of the sampling necessary to determine whether or not the waste site meets criteria for cleanup or can be closed out from the Waste Information Data System (WIDS) as defined in the RD/RA Work Plan. The disposition of impeding surplus facilities will be performed in accordance with Milestone M-094-00.</p>	09/30/2015
M-016-74 Lead Agency: EPA	Complete interim remediation, (to include excavation loadout, closeout sampling, and backfill), for all 300 Area "inside the fence" waste sites north of Apple Street, except that the 300-268 and 300-123 waste sites remediation need only be completed through excavation and loadout. Waste sites 300-4, 300-15, 300 RRLWS and 300 RLWS are impacted by 300 Area building retentions and are addressed in M-016-00B.	09/30/2012
M-016-75	<p>Initiate substantial and continuous remediation on the 309 facility dedicated Radioactive Liquid Waste Sewer (300 RLWS) and the 300 Area Process Sewer (300-15) systems.</p> <p>Dedicated sewers shall be considered lines that serve no other buildings than the 309 facility, and be located within the quadrangle formed by the following streets: Redwood Street, New Mexico Avenue, Cypress Street, and California Avenue.</p>	09/30/2013
M-016-93B	Submit an implementation workplan to EPA for the acquisition of capabilities necessary to prepare TRU and TRUM waste generated by CERCLA cleanup actions at the Hanford site for disposal at the Waste Isolation Pilot Plant (WIPP). This workplan will reflect retrieval decisions, projected waste volumes, and schedules from all CERCLA cleanup actions authorized in Records of Decision and Action Memoranda at the Hanford site, and will provide for updates and revisions as new information becomes available (at a minimum, the workplan must be revised in 2009 (after all 200 Area RODs are issued) and in 2012). As part of the approval process, EPA will consult with Ecology to ensure the wastes from CERCLA operable units for which Ecology is the lead	12/31/2012

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	regulatory agency are properly planned for. This workplan will provide a schedule for acquiring the capabilities for TRU and TRUM management necessary to support all CERCLA cleanup actions. In order to avoid duplicative requirements, the M-16-93 workplan will integrate plans developed pursuant to the M-91 Milestones to provide capabilities for RCRA mixed and suspect mixed Transuranic waste where such capabilities also can be used for CERCLA TRU/TRUM waste. The workplan will be submitted pursuant to Section 11.6 of the Tri-Party Agreement.	
M-016-110-T01	DOE shall take actions necessary to contain or remediate hexavalent chromium groundwater plumes in each of the 100 Area NPL operable units such that ambient water quality standards for hexavalent chromium are achieved in the hyporheic zone and river water column.	12/31/2012
M-016-110-T02	DOE shall take actions necessary to remediate hexavalent chromium groundwater plumes such that hexavalent chromium will meet drinking water standards in each of the 100 Area NPL operable units.	12/31/2020
M-016-110-T03	DOE shall take actions necessary to contain the Strontium-90 groundwater plume at the 100-NR-2 Operable Unit such that the default ambient water quality standard (8 pCi/L) for strontium-90 is achieved in the hyporheic zone and river water column.	12/31/2016
M-016-110-T04	DOE shall implement remedial actions selected in all 100 Area Records of Decision for Groundwater Operable Units so that no contamination above drinking water standards or ambient water quality standards enters the Columbia River unless otherwise specified in a CERCLA decision.	12/31/2016
M-016-110-T05	DOE will have a remedy in place designed to meet Federal Drinking Water Standards for uranium throughout the groundwater plume in the 300-FF-5 Operable Unit unless otherwise specified in a CERCLA decision document.	12/31/2015
M-016-111C	Expand current pump-and-treat system at 100-HR-3 Operable Unit utilizing ex situ treatment, in situ treatment or a combination of both to a total 800 gpm capacity or as specified in the work plan.	12/31/2011
M-016-119-T01	DOE will have a remedy in place to contain existing groundwater plumes (except iodine, nitrate, and tritium) in the 200 NPL Area (Central Plateau).	12/31/2020
M-016-120 Lead Agency: EPA	DOE will have a groundwater treatment system for the Tc-99 plume at the S/SX Tank Farm within the 200-UP-1 Operable Unit. This milestone will be met by utilizing treatment capacity at the new 200 West Pump and Treat Facility.	08/31/2012
M-016-122	Begin Phase I operation of the new 200 west pump and treat system per the Remedial Design Remedial Action Work Plan and the ZP-1	12/31/2011

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	Record of Decision. This action will provide the initial portion of the overall pump-and-treat capacity expected to be required by the 200-ZP-1 and 200-UP-1 Records of Decision. This initial operation can provide treatment for the Tc-99 plume at the S/SX Tank Farm within the 200-UP-1 Operable Unit.	
M-016-139 Lead Agency: EPA	Complete revegetation of 300-FF-2 waste sites governed by M-016-62, M-016-64, and M-016-74.	03/31/2013
M-016-143	Complete the interim response actions for the 100 K Area within the perimeter boundary and to the river for Phase 2 actions. Phase 2 is defined in the 100 K Area RD/RA Work Plans.	12/31/2015
M-016-145	Complete the interim response actions for 100 K Area facilities and waste sites not included as Phase 1, Phase 2, or Phase 3 work. These are the facilities and waste sites which are outside the 100-K perimeter boundary. Phase 1, Phase 2, and Phase 3 facilities and waste sites are defined in the 100 K Area RD/RA Work Plans.	12/31/2012
M-016-171	Complete K Basin sludge treatment and packaging technology evaluation report and submit a schedule including proposed new interim milestones for bench scale or identified testing in order to meet M-016-173.	03/31/2012
M-016-172	Complete KOP material removal from 105-KW Fuel Storage Basin.	09/30/2012
M-016-173	Select K Basin sludge treatment and packaging technology and propose new interim sludge treatment and packaging milestones.	03/31/2015
M-016-174	Complete final design of sludge retrieval and transfer system.	09/30/2013
M-016-175	Begin sludge removal from 105-KW Fuel Storage Basin.	09/30/2014
M-016-176	Complete sludge removal from 105-KW Fuel Storage Basin.	12/31/2015
M-016-178	Initiate deactivation of 105-KW Fuel Storage Basin.	12/31/2015
M-016-181	Complete deactivation, demolition & removal of 105-KW Fuel Storage Basin.	09/30/2019
M-016-186	Initiate soil remediation under 105-KW Fuel Storage Basin.	12/31/2019
M-016-200A	Complete U Plant canyon (221 U Facility) demolition in accordance with the Remedial Design/Remedial Action Work Plan.	09/30/2017
M-016-200B	Complete U Plant (221 U Facility) barrier construction in accordance	09/30/2021

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	with the Remedial Design/Remedial Action Work Plan.	
M-024-000 Lead Agency: Ecology	Complete required well installations in accordance with the RCRA and CERCLA groundwater requirements. The M-24 Milestone Series will be closed when the Parties agree that sufficient RCRA and CERCLA groundwater wells are in place and operating to comply with RCRA and CERCLA requirements for groundwater monitoring, groundwater protection, and groundwater remediation.	To Be Determined
M-024-58 Lead Agency: Ecology	<p>Initiate discussions of well commitments to reaffirm the selected wells and recommend any new well installations needed to maintain a three-year rolling prioritized drilling schedule consistent with site-wide clean-up priorities.</p> <p>The following text applies to all M-024 well construction milestones.</p> <p>Since all wells are drilled in CERCLA or RCRA past practice Operable Units, the parties agreed that the most effective and efficient method of managing wastes from all Hanford well development drilling would be to dispose of the waste in the Hanford environmental restoration disposal facility (ERDF). This workscope would be conducted under the M-024 series milestones.</p> <p>The integration and coordination of all well drilling under the revised Tri-Party Agreement M-024 milestone series will assure CERCLA needs are incorporated into the overall drilling campaign. In addition, the parties reaffirmed their commitment to Section 5.5 of the Tri-Party Agreement Action Plan, the need to coordinate the application of regulatory requirements, and that past-practice authority may provide the most efficient means for addressing mixed-waste groundwater contamination plumes originating from a combination of TSD and past-practice units.</p> <p>In order to ensure that TSD units within the operable units are brought into compliance with RCRA and state hazardous waste regulations, the State of Washington Department of Ecology (Ecology) intends, subject to part four of the Tri-Party Agreement, that all response or corrective actions, excluding situations where there is an imminent threat to the public health or environment as described in Section 7.2.3, will be conducted in a manner which ensures compliance with the technical requirements of the Hazardous Waste Management Act (HWMA) Chapter 70.105 RCW and implementing regulations. Notwithstanding this operating assumption, Ecology reserves the right to exercise its authority under the HWMA and the Hanford Sitewide RCRA Permit, Condition II.Y to require groundwater response actions consistent with WAC 173-303-645 and/or 173-303-646. The management of purgewater and investigation derived wastes from existing wells and wells under the M-024 Tri-Party Agreement milestones (including treatment, storage, and disposal unit wells), will be managed as CERCLA wastes in accordance with a CERCLA decision document,</p>	June 1, 2008 And Annually Thereafter

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>sampling and analysis plan, or waste control plan. Non-liquids will be disposed at ERDF as long as the wastes meet ERDF disposal acceptance criteria. Purgewater will be stored and/or treated at the 200 Area Effluent Treatment Facility or the 600 Area Purgewater Storage and Treatment Facility, unless the lead regulatory agency approves a discharge request for return to the environment.</p> <p>(This milestone series will continue on a yearly basis until such time that the Parties agree that sufficient RCRA and CERCLA groundwater wells are in place and operating to comply with RCRA and CERCLA requirements for groundwater monitoring, groundwater protection, and groundwater remediation.)</p> <p>These milestones do not preclude or foreclose the imposition of additional groundwater well installations pursuant to RCRA permits or work plans and/or CERCLA workplans. Additional work or modification to work shall be in accordance with the provisions of Article XXX of the Agreement.</p>	
M-024-63 Lead Agency: Ecology	<p>DOE shall complete the construction of all wells listed for calendar year 2012 and before, as identified in attachment 1 of TPA change package M-24-11-01. The well listing can be modified with agreement of the Parties at the Project Manager level.</p> <p>Refer to M-024-58 for additional text that applies to this milestone.</p>	12/31/2012
M-024-63-T01 Lead Agency: Ecology	<p>Conclude discussions of well commitments initiated under M-024-58 and add a new interim M-024 Milestone commitment for December 31, 2015 to incorporate new well installations needed to maintain a three-year rolling prioritized schedule.</p>	08/01/2012
M-024-64 Lead agency: Ecology	<p>DOE shall complete the construction of all wells listed for calendar year 2013 and before, as identified in attachment 1 of TPA change package M-24-11-01. The well listing can be modified with agreement of the Parties at the Project Manager level.</p> <p>Refer to M-024-58 for additional text that applies to this milestone.</p>	12/31/2013
M-024-64-T01	<p>Conclude discussions of well commitments initiated under M-024-58 and add a new interim M-024 Milestone commitment for December 31, 2016 to incorporate new well installations needed to maintain a three-year rolling prioritized drilling schedule.</p>	08/01/2013

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-024-65	DOE shall complete the construction of all wells listed for calendar year 2014 and before, as identified in attachment 1 of TPA change package M-24-11-01. The well listing can be modified with agreement of the Parties at the Project Manager level. Refer to M-024-58 for additional text that applies to this milestone.	12/31/2014
M-024-65-T01	Conclude discussions of well commitments initiated under M-024-58 and add a new interim M-024 Milestone commitment for December 31, 2017 to incorporate new well installations needed to maintain a three-year rolling prioritized drilling schedule.	08/01/2014
M-026-01,V, W, X And Intervening Years	<p>Submit an annual Hanford Land Disposal Restrictions (LDR) Summary Report in accordance with the Agreement requirements to cover the period from 1/1 of the previous year through 12/31 of the reporting year. The Hanford Land Disposal Restrictions Summary report will contain the following elements:</p> <ul style="list-style-type: none"> • Section 1.0 Introduction • Section 1.1 CY 20XX LDR Summary Report Overview (where XX will be the reporting year) • Section 1.2: Summary Inventory Of Waste Treatment Groups and Forecast Generation Rates • Section 1.3, Potential Mixed Waste • Section 2.0: Assessments Of Mixed Waste Storage Areas And Potential Mixed Waste • Section 2.1: Introduction • Section 2.2: Assessment Schedules • Section 3.0: Summary Of Characterization Information • Section 4.0: Summary Of Treatment Information • Section 5.0: Storage Volume And Container Numbers For Selected Storage Locations • Section 6.0: References • Table 1-1: Stored Volumes Of Mixed Waste and Generation Projections • Table 1-2: Treatability Group Summary Of Storage, Characterization, and Treatment Activities • Table 1-3: Explanation Of Table 1-4, Potential Mixed Waste • Table 1-4: Potential Mixed Waste • Table 1-5: Historical List Of Materials Deleted From Potential Mixed Waste Table • Table 2-1: Summary Of DOE-RL Assessment Results • Table 2-2: DOE-RL Assessments For Calendar Years 2005 Through 2007 (updated for next three years until no assessments are scheduled) • Table 2-3: Summary Of DOE-RL Assessment Results • Table 3-1: Summary Of Characterization Information For Each Treatability Group • Table 4-1: Summary Of Treatment Information For Each Treatability 	04/30/2012 2013, 2014 And Intervening Years Between Full Reports

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>Group</p> <ul style="list-style-type: none"> Table 5-1: Storage Volume And Number Of Containers For Selected Hanford Locations <p>Table 5-1 will contain the storage volume and the number of containers reported for the following Hanford Site locations: CWC, LLBG, WRAP, PFP, T Plant Complex, WSCF, 325 HWTU, 324, 327, 200 ETF, and 222-S.</p> <p>NOTE: The list for Table 5-1 may change periodically. The change will be made via approval of the applicable Project Managers Meeting minutes documented and approved on or before 11/30 of each year. If no changes to the list are indicated, the list will remain unchanged.</p>	
M-026-01Y	<p>Submit an annual Hanford Land Disposal Restrictions Report in accordance with agreement requirements to cover the period from 1/1 of the previous year through 12/31 of the reporting year.</p> <p>DOE's annual Hanford Land Disposal Restrictions Report: 1) Will be equivalent to (i.e. shall meet all substantive requirements of) site treatment plans as required by the Federal Facility Compliance Act of 1992 (FFCA) and 2) will meet all requirements of Ecology's Final Determination in this matter dated March 29, 2000.</p> <p>The Report shall include a description of activities planned and taken in accordance with agreement requirements and prior annual LDR reports to achieve full compliance with agreement and LRD requirements. The Report shall update all information contained in the LDR plan, the Hanford LDR Summary Reports, and the prior annual LDR report, including plans and schedules.</p> <p>The format for the Report shall be based on equivalency with site treatment plan requirements of the FFCA, Ecology's final determination in this matter dated March 29, 2000, and the "Requirements For Hanford LDR Plan," issued by EPA and Ecology on April 10, 1990. Additionally, the report shall describe any other studies or effort that have been or will be undertaken to identify alternatives to land disposal of mixed wastes. The nonradioactive portion of any mixed wastes that are regulated under Washington State-only regulations shall be addressed in the Report. The Report shall be submitted as a primary document.</p> <p>The report shall document agreement major and interim Milestones for achieving compliance with LDR treatment requirements at TSD mixed waste units by: 1) Identifying and reporting progress against agreement milestones and 2) proposing the establishment of Milestones in the instance of TSD mixed wastes not yet covered under the agreement and for the modification of current HFFACO schedules as necessary to achieve compliance with LDR treatment requirements in a manner</p>	4/30/2015 And Every Five Years Thereafter

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	equivalent to STPS as required by the FFCA. These Milestones shall be based on significant events identified in the LDR Report (i.e. schedules equivalent to those of site treatment plans as required by the FFCA) and will be shown as schedules which are updated annually as part of the Report. Appropriate Milestones will be incorporated in the agreement via the change process defined in Section 12 of the Action Plan upon issuance of the approved Reports.	
M-026-07C	Submit to EPA and Ecology an evaluation of development status of tritium treatment technology that would be pertinent to the cleanup and management of Tritiated Waste Water (e.g., the 242-A Evaporator Process Condensate Liquid Effluent) and tritium contaminated groundwater at the Hanford site.	03/31/2014 And Every Five Years Thereafter
M-035-00 Lead Agency: Dual	Complete data management enhancements as negotiated and approved in M-35-00 interim milestones.	To Be Determined
M-035-09H	Conduct biennial assessments of information and data access needs with EPA and Ecology. DOE will propose implementation schedules (TPA Milestones) for enhancements as a result of the biennial assessments. 3/31/98 (and biennially thereafter).	03/31/2012
M-036-01A (Subsequent Annual Milestones to be Lettered B, C, D, etc.)	<p>The USDOE shall prepare and submit to EPA and Ecology a report setting out the Lifecycle Scope, Schedule and Cost for completion of the Hanford Site Cleanup Mission. The report shall reflect all of those actions necessary for the USDOE to fully meet all applicable Environmental obligations including those under the HFFACO, the Consent Decree in <i>Washington v. DOE</i>, Case No. 08-5085-FVS, and the Hanford RCRA/HWMA Permit. The report shall include scope, schedule and cost for completing work at each of the operable units and RCRA TSD groups/units that are listed in Appendixes B and C of the HFFACO, in the Consent Decree in <i>Washington v. DOE</i>, Case TPA No. 08-5085-FVS, and in the Hanford RCRA/HWMA Permit, including the Hanford Waste Treatment and Immobilization Plant. The report will include all other cleanup and monitoring activities (including post-closure activities) and all related actions necessary to complete the cleanup mission to provide a complete understanding of the resources necessary for the Hanford cleanup mission.</p> <p>This report shall take into account circumstances existing as of the end of the fiscal year preceding the month of the report, including funds appropriated by Congress for the Hanford cleanup, but shall not assume any limitation on funding for future years. However, the report will take into consideration critical resource availability not based upon assumed future funding limitations and the practical limits of project acceleration when developing an executable plan. USDOE may also include costs other than those directly related to environmental obligations (such as security costs) but shall clearly distinguish expenditures for</p>	Due Date To Submit The Report To Be January 31 and Annually Thereafter, Except That The First Report To Be Due No Sooner Than 9 Months After Incorporation Of This Milestone In TPA

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>environmental obligations from other expenditures. Costs shall be displayed by program baseline summary. Additional levels of detail will appear in appendixes to the report. Cost information will provide sufficient detail to validate consistency with the scope and schedule for individual cleanup projects. Reporting in the appendixes will typically be one level below the PBS for the lifecycle, and at levels below that for the next two to five years beyond the execution year (usually at the activity level within the budget assigned to a specific project, e.g., RI-0011, WBS Element 011.04.01, nuclear material stabilization and disposition - PFP, disposition PFP, transition 234-5Z). EPA and Ecology project managers may request additional levels of detail be provided by their DOE counterparts.</p> <p>In circumstances where final cleanup decisions have not yet been made, the report shall be based upon the reasonable upper bound of the range of plausible alternatives or may set forth a range of alternative costs including such a reasonable upper bound. In making assumptions for the purpose of preparing the initial report, USDOE shall take into account the views of EPA and Ecology and shall also take into account the values expressed by the affected Tribal governments and Hanford stakeholders regarding workscope, priorities and schedule. The report shall include the scope, schedule and costs for each such PBS level two element and shall set forth the bases and assumptions for each cleanup activity.</p> <p>After USDOE submits the report, the USDOE will revise the report based upon EPA and Ecology comments to reflect a common vision of the scope, schedule and budget for the remainder of the cleanup mission. If the agencies are unable to reach resolution on specific aspects of the scope of cleanup actions, the revised document will present a range of potential actions with the associated schedule and budget, thereby completing the milestone. DOE, EPA and Ecology shall attempt to reach agreement on the report so it can serve as an agreed upon foundation for preparing budget requests and for informational briefings of affected Tribal governments and Hanford stakeholders. The report shall also serve as the basis for annual discussions among USDOE, EPA and Ecology on how and when the USDOE will complete cleanup, how Congressional appropriations for the Hanford site for that year may affect assumptions presented in the report, and how milestone changes and adjustments will affect lifecycle scope, schedule and cost.</p> <p>Without limiting any DOE obligation under any other provisions of this agreement, and without limiting any DOE obligation to disclose information that is otherwise publicly available, nothing in this milestone shall be construed, either alone or in combination with any other provision of the HFFACO, to require disclosures related to internal federal budget deliberations.</p>	
M-037-02	Submit Revised Closure Plans to support TSD closure for five (5) TSD	06/30/2014

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	Units: 207-A South Retention Basin, 216-A-29 Ditch, 216-A-36B Crib, 216-A-37-1 Crib, and 216-B-63 Trench.	
M-037-03	Submit Revised Closure Plans to support TSD closure for two (2) TSD Units: 216-B-3 Main Pond system, and 216-S-10 Pond and Ditch.	04/30/2012
M-037-10	Complete Unit-Specific Closure Requirements According To The Closure Plan(s) For seven (7) TSD Units: 207-A South Retention Basin, 216-A-29 Ditch, 216-A-36B Crib, 216-A-37-1 Crib, 216-B- 63 Trench, Hexone Storage and Treatment Facility (276-S-141/142), and 241-CX Tank System (241-CX-70/71/72).	09/30/2020
M-037-11	Complete unit-specific closure requirements for two (2) TSD Units: 216-B-3 Main Pond system and 216-S-10 Pond and Ditch.	09/30/2016
M-42-00A Lead Agency: Ecology	Complete the closure of all DST Tank Farms.	TBD, Based Upon Completion of Retrieval Under M-62- 45 Plus 5 Years But No Later Than 9/30/2052
M-045-00 Lead Agency: Ecology	<p>Complete the closure of all Single Shell Tank Farms.</p> <p>Closure will follow retrieval of as much tank waste as technically possible, with tank waste residues not to exceed 360 cubic feet (cu. ft.) In each of the 100 series tanks, 30 cu. ft. In each of the 200 series tanks, or the limit of waste retrieval technology capability, whichever is less. If the DOE believes that waste retrieval to these levels is not possible for a tank, then DOE will submit a detailed explanation to EPA and Ecology explaining why these levels cannot be achieved, and specifying the quantities of waste that the DOE proposes to leave in the tank. The request will be approved or disapproved by EPA and Ecology on a tank-by-tank, or group of tanks, basis. Procedures for modifying the retrieval criteria listed above and for processing requests for exceptions to the criteria are outlined in Appendix H to the Agreement.</p> <p>For the purposes of this Agreement all units located within the boundary of each tank farm will be closed in accordance with WAC 173-303-610. This includes contaminated soil and ancillary equipment that were previously designated as RCRA past practice units. Adopting this approach will ensure efficient use of funding and will reduce potential duplication of effort via application of different regulatory requirements: WAC 173-303-610 for closure of the TSD units and RCRA Section 3004(U) for remediation of RCRA past practice units.</p>	01/31/2043

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>All Parties recognize that the reclassification of previously identified RCRA past practice units to ancillary equipment associated with the TSD unit is strictly for application of a consistent closure approach. Upgrades to previously classified RCRA past practice units to achieve compliance with RCRA or dangerous waste interim status technical standards for tank systems (i.e., secondary containment, integrity assessments, etc.) will not be mandated as a result of this action. However, any equipment modified or replaced will meet interim status standards. In evaluating closure options for Single-Shell Tanks, contaminated soil, and ancillary equipment, Ecology and EPA will consider cost, technical practicability, and potential exposure to radiation. Closure of all units within the boundary of a given tank farm will be addressed in a closure plan for the Single-Shell Tanks.</p> <p>Compliance with the work schedules set forth in this milestone series is defined as the performance of sufficient work to assure with reasonable certainty that DOE will accomplish series major and interim milestone requirements.</p> <p>DOE internal work schedules (e.g., DOE approved schedule baselines) and associated work directives and authorizations shall be consistent with the requirements of this Agreement. Modification of DOE contractor baseline(s) and issuance of associated DOE work directives and/or authorizations that are not consistent with Agreement requirements shall not be finalized prior to approval of an Agreement change request submitted pursuant to Agreement Action Plan Section 12.0.</p> <p>All work under this milestone series shall be conducted in compliance with Agreement requirements including but not limited to the Parties' Agreement Appendix I, "Single-Shell Tank System Waste Retrieval and Closure Process", provided that Section 2.1, Tank Waste Retrieval, of Appendix I of the HFFACO shall not apply to the 19 SSTs covered by the Consent Decree in Washington V. DOE, CASE No. 08-5085-FVS, except as set forth in Appendix C, Part 3, A.1 and A.2 of such Decree.</p>	
M-045-13	<p>Interim completion of Tank S-112 SST Waste Retrieval and Closure Demonstration Project.</p> <p>The S-112 SST Waste Retrieval and Closure Demonstration Project will be considered interim complete when the following criteria have been met:</p> <ol style="list-style-type: none"> 1. Full scale waste retrieval has been completed in accordance with applicable regulatory requirements including Washington's Hazardous Waste Management Act, requirements set by this Agreement, and the approved S-112 saltcake waste retrieval technology functions and requirements document (DOE will submit a retrieval data report pursuant to Agreement Appendix I) by December 31, 2007. 	<p>To Be Determined In Accordance With Milestones M-045-84 Or M-045-85</p>

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	2. Complete negotiations for interim milestones for closure of S-112 (including a schedule for submittal of closure plans and risk assessments and final closure dates) in accordance with Milestones M-045-84 or M-045-85.	
M-045-15	<p>Completion of Tank A-103 SST Waste Retrieval Project.</p> <p>The A-103 SST Waste Retrieval Project will be considered complete when the following criteria have been met:</p> <ol style="list-style-type: none"> 1. Full scale waste retrieval has been completed in accordance with applicable regulatory requirements including Washington's Hazardous Waste Management Act, requirements set by this Agreement, and the approved A-103 Tank Waste Retrieval Work Plan. (DOE will submit a retrieval data report pursuant to Agreement Appendix I). 4. If appropriate, DOE will submit per agreement Appendix I, a request for an exception to waste retrieval criteria pursuant to Agreement Appendix H. 	09/30/2022
M-045-56	<p>Complete implementation of agreed-to interim measures.</p> <p>Specific interim measures will be implemented pursuant to Agreement commitments (e.g., see interim Milestone M-45-57). Interim measures may also be required by Ecology, proposed by DOE in the SST WMA RFI report (M-45-55) (or engineering studies including that addressed in target Milestone M-45-56-T01), or established by Agreement of the Parties at any time during the corrective action process. Also see table 1 of Agreement change control form M-45-98-03.</p> <p>Ecology and DOE agree, at a minimum, to meet yearly (by July or as needed to support annual budgeting) for the specific purpose of assessing the adequacy of information, and the need for the establishment of additional Agreement interim measures. Additional Agreement interim measures shall be documented through establishment of interim milestones and associated target dates as agreed necessary by the Parties.</p>	To Be Determined
M-045-59	<p>Control surface water infiltration pathways as needed to control or significantly reduce the likelihood of migration of subsurface contamination to groundwater at the SST WMAs (pending the CMS report, Milestone M-45-58, and implementation of other interim corrective measures.</p> <p>Decisions on controlling surface water infiltration pathways will be made by evaluating the role of surface water infiltration and the transport of subsurface contamination to groundwater. Based on the corrective</p>	To Be Determined

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	measures study (M-45-58) interim surface barriers and/or other infiltration controls may be required.	
M-045-61	Submit to Ecology for review and approval as an Agreement primary document, a Phase 2 RCRA Facility Investigation/Corrective Measures Study Report for WMA C.	12/31/2014
M-045-62	Submit to Ecology for review and approval as an Agreement primary document a Phase 2 Corrective Measures Implementation Work Plan for WMA C.	06/30/2015
M-045-70 Lead Agency: Ecology	Complete waste retrieval from all remaining single-shell tanks. Retrieval standards and completion definitions are provided in milestone M-045-00. The schedule reflects retrieval activities on a farm-by-farm basis. It also allows flexibility to retrieve tanks from various farms if desired to support safety issue resolution, pretreatment or disposal feed requirements, or other priorities.	12/31/2040 Or Earlier As Established By M-62-45
M-045-82 Lead Agency: Ecology	Submit complete permit modification requests for Tiers 1, 2, & 3 (see Appendix I) of the SST System, to support final closure requirements for WMA C.	09/30/2015
M-045-83 Lead Agency: Ecology	Complete the Closure of WMA C. The milestone date assumes Ecology will issue a final permit modification decision within 12 months of receiving DOE's modification request under M-045-82. If Ecology does not issue a final permit modification decision within 12 months of receiving DOE's modification request under M-045-82, the milestone date will be extended on a day-for-day basis for each day beyond the 12 month period until a final permit modification decision is issued.	06/30/2019
M-045-84 Lead Agency: Ecology	Complete negotiations of HFFACO interim milestones for closure of the second WMA (including a schedule for submittal of closure plans and risk assessments and final closure dates.	01/31/2017
M-045-85 Lead Agency: Ecology	Complete negotiations of HFFACO interim milestones for closure of the remaining WMAs (including a schedule for 200 West Area closures, the submittal of closure plans and risk assessments and final closure dates for each WMA).	01/31/2022
M-045-86 Lead Agency: Ecology	Submit a retrieval data report to Ecology for the 19 tanks retrieved under the Consent Decree in <i>Washington v. DOE</i> , Case No. 08-5085-FVS, which report shall include the following elements only of Section 2.1.7 of Appendix I to the HFFACO: 1) Residual tank waste volume measurement, including associated calculations;	12 Months After DOE Certifies To Ecology That DOE Has Completed

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	2) The results of residual tank waste characterization; 3) Retrieval technology performance documentation; 4) DOE's updated post-retrieval risk assessment; 5) Opportunities and actions being taken to refine or develop tank waste retrieval technologies, based on lessons learned and, 6) LDMM monitoring and performance results.	Retrieval Of Each Tank
M-045-91B-T01	DOE shall provide Ecology a report containing the results and interpretation of testing, and analysis, performed on the concrete core obtained from Tank A-106 or alternate tank.	09/30/2014
M-045-91D-T01	DOE shall provide Ecology a report containing the results and interpretation of testing, and analysis, performed on the concrete dome samples obtained from the Tank C-107 plug.	05/31/2013
M-045-91E	DOE shall provide to Ecology a compilation of the Single-Shell Tank farms dome deflection surveys every two years, beginning 9/30/2013.	09/30/2013
M-045-91F	DOE shall provide to Ecology, for approval, a report (Summary Conclusions Report on Leak Integrity) summarizing and evaluating the information submitted under M-045-91F-T01 through -T04.	12/31/2013
M-045-91F-T01	DOE shall provide to Ecology as a HFFACO secondary document, a report evaluating the applicability to Hanford SSTs, of the liquid leak rate assessments of sludge and salt-cake from the Savannah River Site.	01/31/2012
M-045-91F-T02	DOE shall provide to Ecology as a HFFACO secondary document a report, evaluating the common factors of liner failures for SSTs that have leaked and will provide recommendations as appropriate, such as enhanced Leak Detection, Monitoring, and Mitigation. For purposes of this milestone, the SSTs that have leaked are identified through the RPP-32681, Rev 0. Process to Assess Tank Farm Leaks in Support of Retrieval and Closure Planning.	07/31/2013
M-045-91F-T03	DOE shall provide to Ecology, as a HFFACO secondary document, a report assessing the feasibility of testing for ionic conductivity between the inside and outside of SSTs.	05/31/2013

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-045-91F-T04	<p>DOE shall provide to Ecology, as a HFFACO secondary document, a report on the 100-series single-shell tanks which have been or will be identified as having leaked in RPP-32681. Rev 0. Process to Assess Tank Farm Leaks in Support of Retrieval and Closure Planning, leak assessment reports. This report will use an interagency assessment process as described in Section 4.0 of RPP-3268 1, Rev 0.</p> <p>The report will include identification and evaluation of leak locations and leak causes (including chemistry stress corrosion cracking - SCC) for at least the twenty 100-series tanks currently identified as having leaked; include a leak rate estimate for tanks A-I05 and U-104; and include a recommendation whether to update and revise the leak assessment reports to include the leak information. Additional leaking tanks identified as the process continues will be included in the report.</p> <p>For purposes of this milestone, the terms, "confirmed leaker, "assumed leaker," and "leaker" are equivalent descriptions.</p>	07/31/2013
M-045-91G	<p>DOE shall provide, for Ecology approval, a Summary Conclusions Report of Structural Analyses of Record (AOR) for SSTs. This report shall provide conclusions from the four separate AORs and be certified by an IQRPE.</p> <p>530, 000 gallon tanks (B, BX, C, T, and U Farms) 750, 000 gallon tanks (BY, S, TX and TY Farms) 1,000,000 gallon tanks (A, AX and SX Farms) 55,000 gallon tanks (B, C, T and U Farms)</p>	04/30/2014
M-045-91G-T02	DOE shall provide to Ecology the Structural Analyses of Record final documentation for SSTs for: 750,000 gallon tanks (BY, S, TX and TY Farms)	01/31/2012
M-045-91G-T03	DOE shall provide to Ecology the Structural Analyses of Record final documentation for SSTs for: 1,000,000 gallon tanks (A, AX and SX Farms)	09/30/2012
M-045-91G-T04	DOE shall provide to Ecology the Structural Analyses of Record final documentation for SSTs for: 55,000 gallon tanks (B, C, T and U Farms)	10/31/2013
M-045-91G-T06	DOE shall provide a Report to Ecology documenting and evaluating the Visual Inspection of 12 SSTs, per criteria in M-045-91G-T05. The need for additional visual inspections will be jointly decided by Ecology and QRP following March 31 2012 (submittal of the report that meets this Target Date).	03/31/2012
M-045-91H	DOE shall submit a change package (if deemed necessary by DOE and Ecology) to establish additional milestones based on information obtained from the actions in the preceding M-045-91 series milestones	07/31/2015

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	to date.	
M-045-91I	DOE shall provide, to Ecology, an IQRPE certification of SSTs structural integrity for the remainder of the mission, or for such time as the IQRPE believes he/she can reasonably certify. The analysis supporting the certification shall be performed in accordance with the requirements identified for analysis in WAC 173-303-640(2) and will include a due diligence review of RPP-10435. IQRPE certification of the SST leak integrity is not required. A work plan and schedule for additional integrity assessment activities will be submitted as a change package to cover any time period between the end date of the IQRPE certification and the end date of the mission.	09/30/2018
M-045-92 Lead Agency: Ecology	<p>DOE and Ecology will establish, no later than March 31, 2010, selection criteria for installation of additional interim barriers at additional WMAs (beyond the T-106 and TY barriers). DOE and Ecology will meet yearly to review the monitoring data, agree to changes in monitoring (if needed) and assess the performance of the demonstration barrier.</p> <p>DOE shall submit to Ecology for approval, a final design and monitoring plan for TY farm interim barrier by March 31, 2010. Installation of the barrier will be completed by September 30, 2010.</p> <p>By December 31, 2010, complete negotiations to schedule the remaining 4 additional barriers, unless DOE and Ecology agree that monitoring data does not support continued installation of interim barriers.</p> <p>If negotiated, complete installation of 4 additional interim barriers at a rate of one per year, with the first being completed by October 31, 2012. Prior to beginning construction and at least sixteen months before construction is to be complete, DOE will submit to Ecology a final design and monitoring plan for each interim barrier. The design and monitoring plans will be consistent with those developed for WMA T and TY unless DOE and Ecology agree otherwise. Ecology will authorize construction upon approval of these submittals.</p>	09/30/2016 Or As Indicated In the Descriptive Text Of This Milestone

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-047-00	Complete work necessary to provide facilities for management of secondary waste from the WTP (e.g., tank waste treatment facility liquid effluents). Compliance with the work schedules set forth in this M-47 series is defined as the performance of sufficient work to assure with reasonable certainty that DOE will accomplish series M-47 major and interim milestone requirements. DOE internal work schedules (i.e., DOE approved schedule baselines) and associated work directives and authorizations shall be consistent with the requirements of this Agreement. Modification of DOE contractor baseline(s) and issuance of associated DOE work directives and/or authorizations that are not consistent with Agreement requirements shall not be finalized prior to approval of an Agreement change request submitted pursuant to Agreement Action Plan Section 12.0.	The Date That The WTP Achieves Initial Plant Operations
M-047-06	Complete negotiation of no more than two interim milestones governing work necessary to support completion of M-047-00. Such interim milestones shall be consistent with milestones established under M-062-45.	06/30/2012
M-062-00	Complete pretreatment processing and vitrification of Hanford High Level (HLW) and Low activity (LAW) Tank Wastes. Compliance with the work schedules set forth in this milestone series is defined as the performance of sufficient work to assure with reasonable certainty that DOE will accomplish series major and interim milestone requirements. DOE internal work schedules (e.g., DOE approved schedule baselines) and associated work directives and authorizations for this milestone series shall be consistent with the requirements of this Agreement. Modification of DOE contractor baseline(s) and issuance of associated DOE work directives and/or authorizations that are not consistent with Agreement requirements shall not be finalized prior to approval of an Agreement change request submitted pursuant to Agreement Action Plan Section 12.0.	12/31/2047 Or Earlier As Established By M-062-45
M-062-01W And Beyond	Submit Semi-Annual Project Compliance Report DOE's manager, Office of River Protection (ORP), will submit a " <u>Project Compliance Report</u> " to Ecology semi-annually (a copy of this report will also be provided to EPA's region 10 Office of Waste and Chemicals Management). This report will document DOE compliance with Agreement requirements and shall be sequentially updated by information documenting work performed and issues encountered during the previous report period. The ORP Project Compliance Report will be provided as part of the Parties' Inter Agency Management Integration Team (IAMIT) meetings, and shall document the status of progress to date, progress made during the report period, and activities expected in the foreseeable future. The report will include but is not	07/31/2011 Semi-Annually Beginning July 31, 2001

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	limited to: (1) a concise description of project accomplishments and issues including those encountered during the previous year and those expected in the near term, (2) when applicable, a description of actions initiated or otherwise taken to recover any Agreement schedule slippage, (3) a budget and cost status, (4) a statement documenting whether or not DOE and DOE's contractor(s) remain in compliance with Agreement requirements, i.e., whether or not "DOE and DOE contractor(s) have completed sufficient work to allow achievement of Agreement requirements," and (5) concise descriptions of any noncompliance. Copies of all pertinent DOE work directives and/or authorizations issued to DOE's contractor(s) shall be provided on request.	
M-062-21 Lead Agency: Ecology	On an annual basis, submit data, whose accuracy is certified in accordance with WAC 173-303-810(13), and which demonstrates on a rolling three year average, operation of WTP, and any supplemental treatment if needed, at a rate sufficient to accomplish treatment of all Hanford tank waste in accordance with the date required by milestone M-062-00, taking into account that treatment rates are expected to vary based upon a number of factors, including the character of the waste treated, or alternatively describe plans to increase the rate beyond that previously anticipated in order to achieve treatment of all Hanford tank waste by the M-062-00 milestone date.	02/28/2023 And Annually Thereafter
M-062-31-T01 Lead Agency: Ecology	Complete Final Design and Submit a complete RCRA Part B Permit Modification request for Enhanced WTP and/or Supplemental Vitrification Treatment Facility based on the M-062-45 decision.	12 Months After M-062- 45 Item #3 Decision On Supplemental Treatment
M-062-32-T01 See * in M-062-45 Lead Agency: Ecology	Start construction of Supplemental Vitrification Treatment Facility and/or WTP Enhancements.	36 Months After M-062- 45 Item #3 Decision On Supplemental Treatment, Provided That Ecology Has Issued A Final Permit Modification At Least Twelve (12) Months Earlier

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-062-33-T01 See * in M-062-45 Lead Agency: Ecology	Complete construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements.	72 Months After M-062-45 Item #3 Decision On Supplemental Treatment
M-062-34-T01 See * in M-062-45 Lead Agency: Ecology	Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements.	92 Months After M-062-Item #3 Decision On Supplemental Treatment
M-062-40 Lead Agency: Ecology	<p>Submit a System Plan to Ecology describing the disposition of all tank waste managed by the Office of River Protection, including the retrieval of all tanks not addressed by the Consent Decree in <i>Washington v. DOE</i>, Case No. 08-5085-FVS, and the completion of the treatment mission.</p> <p>The Plan will be updated and submitted to Ecology every three years to document any further optimization of retrieval and waste treatment capabilities to, in the case of SST retrievals, complete such retrievals as quickly as is technically feasible (but not later than the date established in milestone M-045-70), and, in the case of tank waste treatment, complete such treatment as quickly as is technically feasible (but not later than the date established in milestone M-062-00), both with and without consideration of (i) whether such further optimization would be excessively difficult or expensive within the context of such activities and (ii) any impact on the overall cleanup mission.</p> <p>One year prior to the issuance of the System Plan, DOE and Ecology will each select the scenarios (including underlying common and scenario-specific assumptions) that will be analyzed in the System Plan, with DOE and Ecology each having the right to select a minimum of three scenarios each.</p> <p>The Plan will include the following elements:</p> <p><u>OVERALL MINIMUM REQUIREMENTS</u></p> <p>The Plan will present the following minimum information for each scenario evaluated:</p> <ul style="list-style-type: none"> • A system description for each system utilized in the planning • Planning bases for each case • A description of key issues, assumptions, and vulnerabilities for each scenario evaluated; a description of how such 	<p>Starting October 31, 2010 and Every Three Years Thereafter, Ecology and DOE Will Each Have The Right To Select A Minimum of Three Scenarios That Will Be Analyzed In The System Plan.</p> <p>Beginning October 31, 2011, and Every Three Years Thereafter, Issue The System Plan</p>

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>issues, assumptions and vulnerabilities are addressed in the evaluation.</p> <ul style="list-style-type: none"> • Sensitivities analysis of selected key assumptions • Estimated schedule impacts of alternative cases relative to the baseline, including cost comparisons for a limited subset of scenarios that DOE and Ecology wish to analyze further. • Identification of new equipment, technology, or actions needed for the scenario (e.g., new evaporators or DSTs; new retrieval technologies; waste treatment enhancements or mitigations, such as sodium, sulfate, aluminum and chrome mitigation measures). • Identification of issues, techniques or technologies that need to be further evaluated or addressed in order to accelerate tank retrievals and tank waste treatment • Impacts on closure activities for each scenario. <p><u>TANK WASTE TREATMENT</u></p> <p>The Plan will evaluate scenarios and identify potential near and long-term actions to optimize tank waste treatment so that the treatment mission is completed as quickly as is technically feasible but not later than the date established in Milestone M-062-00, with and without consideration of (i) whether such further optimization would be excessively difficult or expensive within the context of such activities and (ii) any impact on the overall cleanup mission.</p> <p>The Plan will, at a minimum, describe how the tank waste treatment mission can:</p> <ul style="list-style-type: none"> • Pretreat 100% of the retrievable tank waste (at a rate sufficient to operate the HLW facility, LAW facility, and Supplemental Treatment system simultaneously at their estimated average production rates). • Vitrify 100% of the separated high-level waste stream at estimated average production rates. • Vitrify 100% of separated low-activity waste stream at estimated average production rates. • Appropriately manage secondary waste streams. <p>The Plan will take into account the results from testing of the Pretreatment Engineering Platform and other studies.</p>	

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p><u>SUPPLEMENTALTREATMENT</u></p> <p>The Plan will also describe:</p> <ul style="list-style-type: none"> • How much total sodium will need to be treated. • The needed capacity for supplemental treatment to have all the tank waste treated by a date that is as quickly as is technically feasible but not later than the date established in milestone M-062-00, with and without consideration of (i) whether such further optimization would be excessively difficult or expensive within the context of such activities and (ii) any impact on the overall cleanup mission. <p>The System Plan will outline specific options to treat all the LAW. Such options include:</p> <ul style="list-style-type: none"> • Build and operate a 2nd LAW Vitrification Facility. • Build and operate a Bulk Vitrification Facility. <p>Not later than the System Plan Report due date of 10/31/2014, DOE will submit a one-time Hanford Tank Waste Supplemental Treatment Technologies Report, which will be required if a tank waste supplemental treatment technology is proposed, other than a 2nd LAW Vitrification Facility.</p> <p>This report will:</p> <ul style="list-style-type: none"> • Describe additional treatment facilities and technologies, and cost which in combination with the WTP are needed to vitrify all of Hanford's tank waste by a date that is as quickly as is technically feasible but not later than the date established in milestone M-062-00, with and without consideration of (i) whether such further optimization would be excessively difficult or expensive within the context of such activities and (ii) any impact on the overall cleanup mission. • Apply the same selection criteria to all options and include a 2nd LAW Vitrification Facility as an option. • Include all the results from all waste form performance data (compared against the performance of borosilicate glass) for all the treatment technologies being considered. • Describe the technologies being considered (including size, throughput, sodium loading, quantity of waste to be processed, quantity of final waste forms, secondary waste quantity and 	

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>nature, technical viability, and life cycle cost and schedule estimates).</p> <ul style="list-style-type: none"> • Include data from both cold and hot testing if bulk vitrification is to be retained as an option. <p><u>TANK WASTE RETRIEVAL</u></p> <p>The Plan will evaluate scenarios and identify potential near and long-term actions to optimize tank waste retrieval so that the single-shell tank retrievals are completed as quickly as is technically feasible but not later than the date established in milestone M-045-70, with and without consideration of (i) whether such further optimization would be excessively difficult or expensive within the context of such activities and (ii) any impact on the overall cleanup mission.</p> <p>The Plan will consider:</p> <ul style="list-style-type: none"> • SST integrity information, including the SST integrity assurance review provided under milestone M-045-91 and any further integrity assessments. • Waste retrieval rate sufficient to operate all waste treatment facilities at their full capacities, considering optimized waste feed rates. • The effect on waste retrieval rates of the waste retrieval technologies selected through the TWRWP process. • Sequences for remaining SSTs and DSTs to be retrieved based on a risk prioritization strategy, waste treatment feed optimization as affected by blending, and Waste Management Waste Area Closure considerations. <p>The Plan will also take into account the results from previous waste retrievals and other waste treatment studies. This shall include:</p> <ul style="list-style-type: none"> • The retrieval methodologies that could be employed and estimated waste volumes to be generated for transfer to the DST or other safe storage. • DST space evaluations for the waste retrieval sequence. • Proposed improvements to reduce waste retrieval durations <p><u>CONTINGENCY PLANNING</u></p> <p>The Plan will identify and consider possible contingency measures to address the following risks:</p>	

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<ul style="list-style-type: none"> • Results from SST integrity evaluations. • If retrievals take longer than originally anticipated and there is potential impact to the schedule for retrieving specified tanks under this agreement. • If DST space is not sufficient or is not available to support continued retrievals on schedule. • If any portion of the WTP does not initiate cold commissioning on schedule. • If any portion of the WTP does not complete hot start on schedule. • If operation of the WTP does not meet treatment rates that are adequate to complete retrievals under the schedule in this agreement. For example, the contingency measures will address estimated pretreatment facility throughput as affected by ultrafiltration capacity and oxidative leaching requirements. <p>The contingency measures identified for consideration should include, but not be limited to, providing new, compliant tanks with sufficient capacity and in sufficient time to complete retrievals under this agreement, regardless of WTP operational deficiencies or retrieval conditions.</p>	
M-062-45 Lead Agency: Ecology	<p>Every six years, within six months of the issuance of the last revision of the System Plan, the parties will negotiate the following:</p> <ol style="list-style-type: none"> 1. Commencing as target milestones in 2015 and enforceable milestones in 2021 and each negotiation thereafter, tank waste retrieval sequencing and milestones, and milestones for installation of infrastructure to feed tank waste from the DST system to the tank waste treatment system, for the next eight years. 2. Contingency actions and milestones, if and as necessary, for providing new, compliant tanks with sufficient capacity and in sufficient time to complete retrievals under this agreement, regardless of WTP operational deficiencies or retrieval conditions. 3. Supplemental treatment selection (a one time selection to be made not later than April 30, 2015) and milestones, which must be consistent with M-062-00 as established by M-062-45 item #5. A 2nd LAW Vitrification Facility must be considered as one of the options. *Milestones M-062-31- T01 through M-062-34-T01 are initially set as target dates and will be established (as may 	April 30, 2015, And Every Six Years Thereafter

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>be modified) as interim milestones when they are converted to interim milestones in accordance with applicable HFFACO procedures at the conclusion of this negotiation.</p> <ol style="list-style-type: none"> 4. The date in milestone M-045-70 for completion of the tank waste retrievals as expeditiously as possible. 5. The date in milestone M-062-00 for completion of tank waste treatment as expeditiously as possible. 6. Milestones for the provision of IHLW canister storage capacity for the six year period of WTP operation for the operating period that begins in January 2022. Additional milestones for the provision of such canister capacity will be established as needed every six years thereafter for the storage of IHLW for the subsequent six year period of WTP operations. 7. Reevaluate milestones to establish facilities to manage secondary waste streams from the WTP by the date that the WTP achieves initial plant operations. <p>As used in paragraphs 4 and 5, above, the phrase 'as expeditiously as possible' means, in the case of SST retrievals, completing such retrievals as quickly as is technically feasible but not later than the date established in milestone M-045-70, and in the case of tank waste treatment, completing such treatment as quickly as is technically feasible but not later than the date established in milestone M-062-00, and in each case without excessive difficulty or expense within the context of such activities, and in consideration of any impact on the overall cleanup mission.</p> <p>By the milestone due date, the parties will complete negotiations on the above matters. Although multiple scenarios may be considered in the course of the negotiations, and none may be considered wholly appropriate, the final decisions in items 1 through 7 above will be consistent with a single scenario, including any agreed-upon supplemental sensitivity analyses. The parties agree that the chosen scenario alone need not dictate matters in the negotiations and that other information may be considered as the parties deem appropriate. In the event Ecology and DOE do not reach agreement for the matters in M-062-45 paragraphs 1, 2, 3, 6, and 7 the dispute between Ecology and DOE will be resolved pursuant to the HFFACO Article VIII. The dispute resolution process in HFFACO, Article VIII, does not apply to the determinations in M-062-45 paragraphs 4 and 5. Rather, these disputes shall be governed by the Consent Decree in <i>Washington v. DOE, Case No. 08-5085-FVS</i>. No later than 12/31/2021, the United States and Ecology shall complete negotiations to establish a mechanism that will apply to resolve future disputes regarding the determinations in M-062-45 paragraphs 4 and 5. The United States and</p>	

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	Ecology have reserved their rights regarding the mechanism that should apply to such future disputes, in the event that they cannot reach agreement.	
M-062-49 Lead Agency: Ecology	<p>Submit a report to the Department of Ecology, with data, whose accuracy is certified in accordance with WAC 173-303-810(13), and which demonstrates that the WTP is designed to accomplish at least the following:</p> <ul style="list-style-type: none"> • Pretreat 100% of retrievable tank waste (i.e., 48,000 MT of sodium and 25,000 MT of solids). • Vitrify 100% of the separated high-level waste stream (estimated at 4.2 MTG/d, at the assumed operating efficiency). • WTP LAW combined with supplemental treatment (bulk vitrification or second LAW) can vitrify 100% of separated low-level waste stream (estimated at 21 MTG/d, at the assumed operating efficiency, for WTP LAW). 	10/31/2011
M-083-00A Lead Agency: Ecology	<p>Complete PFP Facility transition & selected disposition activities.</p> <p>Completion of this major milestone includes the following key elements: 1) completion of all activities necessary to achieve end point criteria established through Milestone M-83-20 for placing the PFP facility in a safe and stable S&M mode, 2) completion of all activities described in the approved M-83 series interim milestones and target date; and 3) completion of the balance of PFP selected disposition activities pursuant to the final action memoranda and work plans.</p> <p>Also see "description/justification" contained in change form M-83-01-03.</p>	09/30/2016
M-083-24	<p>Submit a Surveillance and Maintenance (S&M) Plan as a primary document to Ecology pursuant to Agreement Section 8.5.4. A S& M Plan will be submitted to Ecology as lead regulatory agency. Lead regulatory agency approval will be specific to information affecting regulated units and hazardous substances in the facility. The S&M Plan will describe those activities that will occur during the S&M period and include the following: 1) surveillance; (2) maintenance; (3) quality assurance; (4) radiological controls; (5) hazardous substance inventory, management and protection; (6) health and safety/emergency preparedness; (7) safeguards and security; and (8) cost and schedule.</p>	06/30/2012
M-083-44	<p>Complete transition of the 234-5Z (Plutonium Conversion Facility) & ZA (Plutonium Conversion Support Facility), 243-Z Low level Waste Treatment Facility, 291-Z Exhaust Building, and 291-Z-1 exhaust stack to support PFP decommissioning.</p>	09/30/2015

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	Deactivate and prepare for dismantlement the above grade portions of the 234-5Z & ZA, 243-Z, and 291-Z and 291-Z-1 Stack buildings.	
M-085-00 Lead Agency: Dual	Complete response actions for the canyon facilities/associated past practice waste sites, other Tier 1 Central Plateau facilities not covered by existing milestones, and Tier 2 Central Plateau facilities. This includes B Plant, PUREX, and REDOX canyons and associated past practice waste sites in 200-CB-1, 200-CP-1, and 200-CR-1 OUs. The milestone does not include U Plant or T Plant canyons.	TBD
M-085-01	Submit a change package to establish a date for major milestone M-085-00.	09/30/2012
M-085-10A Lead Agency: Ecology	Submit Remedial Investigation/Feasibility Study Work Plan for the 200-CB-1 OU (B Plant Canyon/associated past practice waste sites) to Ecology.	06/30/2014
M-085-20A	Submit Remedial Investigation/Feasibility Study Work Plan for the 200-CP-1 OU (PUREX Canyon/associated past practice waste sites) to Ecology.	09/30/2015
M-085-30A	Submit Remedial Investigation/Feasibility Study Work Plan for the 200-CR-1 OU (REDOX Canyon /associated past practice waste sites) to EPA.	12/31/2017
M-085-50	Submit revised removal action work plan for the 224B Concentration Facility in accordance with the Action Memorandum for the Non-Time Critical Removal Action for the 224-B Plutonium Concentration Facility (DOE/RL-2004-36). A change package with a completion milestone will accompany the submittal of the work plan.	12/31/2015
M-085-51	Submit removal action work plan for the 224T Transuranic Storage and Assay Facility in accordance with the Action Memorandum for the Non-Time-Critical Removal Action for the 224-T Plutonium Concentration Facility (DOE/RL-2004-68). A change package with a completion milestone will accompany the submittal of the work plan.	12/31/2025
M-085-60	Complete Engineering Evaluation/Cost Analysis report(s) for all Tier 2 facilities listed in Appendix J.	03/31/2018
M-089-00	Complete closure of Non-permitted mixed waste units in the 324 building REC B-cell, REC D-cell, and high level vault.	09/30/2012
M-090-00	Complete acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities as necessary for storage of the first two years of Hanford site IHLW from WTP operations. Compliance with the work schedules set forth in this M-90 series is defined as the performance of sufficient work to assure with reasonable certainty that DOE will accomplish series M-90 major and interim	The Date That The WTP Achieves Hot Start

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>milestone requirements.</p> <p>DOE internal work schedules (e.g., DOE approved schedule baselines) and associated work directives and authorizations shall be consistent with the requirements of this Agreement. Modification of DOE contractor baseline(s) and issuance of associated DOE work directives and/or authorizations that are not consistent with Agreement requirements shall not be finalized prior to approval of an Agreement change request submitted pursuant to Agreement Action Plan Section 12.0.</p>	
M-090-11	<p>Complete the negotiation of no more than two canister storage facility construction interim milestones.</p> <p>For purposes of these interim milestones IHLW canister storage is defined as the capability for storage of the first two years of Hanford site IHLW canisters from WTP operations.</p>	12/31/2012
M-091-00	<p>Complete the treatment to Land Disposal Restriction (LDR) treatment standards for all Hanford Site <i>Resource Conservation and Recovery Act of 1976 (RCRA)</i> mixed low-level waste (MLLW) and <i>RCRA</i> transuranic mixed (TRUM) waste.</p> <p>DOE may choose to complete certification and shipment of TRUM waste for disposal at the Waste Isolation Pilot Plant (WIPP) in lieu of LDR treatment if, as of the time of shipment, such waste is exempt from LDR treatment standards when disposed at WIPP. Notification of certification in support of shipment will be reported at least annually as part of the project manager meetings or quarterly milestone review for inclusion in the administrative record.</p> <p>Definitions</p> <p>"Certification" as used herein is defined as:</p> <ul style="list-style-type: none"> • Completion of all activities necessary for waste to be packaged such that it can meet the Waste Isolation Pilot Plant Waste Acceptance Criteria (WIPP WAC). If subsequent WIPP certification reveals the waste cannot be shipped to WIPP this waste will not count toward meeting the milestone volume requirements (and will be subtracted from meeting such requirements) until such time as it has been determined to meet WIPP WAC or; • The TRUM has been shipped to Idaho. TRUM waste shipped to Idaho may also count toward certification based upon actual shipment to Idaho and contingent upon the waste not returning to the Hanford Site, or; 	<p>Date To Be Established Pursuant To Milestone M-091-44T</p>

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<ul style="list-style-type: none"> • The waste has been treated to meet LDR treatment standards. <p>"Contact Handled (CH)" waste is a waste container with a surface dose rate less than or equal to 200 millirem per hour.</p> <p>"MLLW" is LLW that is subject to RCRA or 70.105 RCW. "LLW" is defined as radioactive waste that is not spent fuel, high-level waste, TRU waste, byproduct material, or naturally occurring radioactive material.</p> <p>"Remote Handled (RH)" waste is a waste container with a surface dose rate greater than 200 millirem per hour.</p> <p>"Retrievably Stored Waste (RSW)" as used herein is defined as waste that is or was believed to meet the TRU waste criteria when it was placed in the 218-W-4B, 218-W-4C, 218-W-3A and 218-E-12B burial ground trenches after May 6, 1970. RSW does not include waste in containers that have deteriorated to the point that they cannot be retrieved and stabilized (e.g. placed in over-packs) in a manner that would allow them to be transported and designated without posing significant risks to workers, the public or the environment. With respect to any such containers, and with respect to any release of RSW, how to move forward will be determined through the cleanup process set forth in RCRA, CH. 70.105 RCW, and/or the <i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)</i> as appropriate. Those processes may result in additional requirements for the remediation of such wastes.</p> <p>"Retrieval of CH RSW" is defined as uncovering CH wastes within DOE's RSW trenches, removing such CH wastes from the trenches, and transferring the waste to a permitted and compliant treatment, storage or disposal unit or the Environmental Restoration and Disposal Facility (ERDF).</p> <p>"Retrieval of RH RSW" is defined as uncovering RH wastes within DOE's RSW trenches and caissons, removing such RH wastes from the trenches and caissons, and transferring the waste to a permitted and compliant treatment, storage or disposal unit or the ERDF.</p> <p>"Shipment" is defined as TRUM waste containers leaving the Hanford Site, and includes waste shipped to either Idaho or the Waste Isolation Pilot Plant (WIPP), and contingent upon the waste not returning to the Hanford Site.</p> <p>"Small Containers and Large Containers" as used herein have different meanings depending on whether they are used in reference to MLLW or TRUM waste.</p>	

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<ul style="list-style-type: none"> When referring to MLLW, small containers are containers less than 10 cubic meters, including 55-gallon drums. A large container is anything not defined as a small container. When referring to TRUM waste, small containers are 55-gallon drums or smaller containers even if over packed in 85-gallon drums, and WIPP standard waste boxes (SWB). A WIPP SWB is a 1.8 cubic meter steel container that is approximately 0.94 meters in height, 1.8 meters in length, and 1.4 meters in width and was qualified by the DOE in 1988 as meeting the U.S. Department of Transportation (DOT) requirements for specification 7A type A packaging. A large container is defined as any container that is not defined as a small container. <p>"TRUM Waste" is TRU waste that is subject to RCRA or 70.105 RCW. "TRU Waste" as used herein is defined as waste that meets the definition in Subsection (18) of Section 2 of the WIPP Land Withdrawal Act. Pub. L. 102-579.</p> <p>"200 Area Caissons" as used herein are defined as RSW in the 218-W-4B burial ground caissons Alpha-1 through Alpha-4.</p> <p>Note: To provide further clarification on how volumes should be determined in different M-091 contexts, and to be consistent with the volumes of waste listed in the Hanford Site Solid Waste Inventory Tracking System (SWITS), the following descriptions are provided:</p> <ul style="list-style-type: none"> Volumes for the purposes of determining amounts retrieved shall be based on the volume of the original containers in retrievable storage. For example, the volume of a 55-gallon RSW drum that would be counted toward "retrieval" would be 55-gallons (0.208 cubic meters), even if in the process of retrieval the drum needed to be over-packed into an 85 gallon drum. The volume of MLLW "treated" will be counted as the retrieval volume (for RSW) or the MLLW pre-treatment container volume (for stored waste). The volume of small container CH TRUM waste counted as certified will be the volume of the certified container containing the waste unless the waste is compacted. In the event that the waste is compacted, the volume of the pre-compaction container will be counted. The volume of large container CH TRUM waste and RH TRUM waste (in above ground storage as of June 30, 2009 and in retrievable storage) will be based on the pre-treatment volume of each large container CH TRUM waste as listed in Hanford's 	

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>SWITS.</p> <p>Note: Each requirement of these M-091 series milestones is considered a distinct work requirement independently subject to the enforcement provisions of the agreement.</p>	
M-091-01	Complete the acquisition of new facilities, modification of existing facilities, and modification of planned facilities necessary for retrieval, storage, and treatment/processing, of all Hanford Site RCRA TRUM waste.	Date To Be Established Pursuant To Milestones M-091-01A and M-091-01B
M-091-01A	<p>Complete the conceptual design for acquisition of capabilities and/or acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for retrieval, designation, storage, and treatment/processing prior to disposal of all Hanford Site RH TRUM waste and TRUM waste in large containers (in above ground storage as of June 30, 2009 and in retrievable storage).</p> <p>In addition, submit a milestone change package (based on the conceptual design) for annual construction milestones for the planned facilities necessary for retrieval, storage, and treatment/processing, of all Hanford Site RH TRUM waste and large container CH TRUM waste.</p>	09/30/2016
M-091-01B	<p>Complete the definitive design for acquisition of capabilities and/or acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for retrieval, designation, storage, and treatment/processing prior to disposal of all Hanford Site RH TRUM waste and TRUM waste in large containers (in above ground storage as of June 30, 2009 and in retrievable storage).</p> <p>In addition, submit a milestone change package documenting any substantial variations, based on the definitive design, from annual construction milestones finalized pursuant to M-091-01A.</p>	09/30/2018

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-091-03	<p>Submit a revision of the Hanford Site TRUM waste and MLLW Project Management Plan (PMP) to Ecology pursuant to, and in compliance with, the requirements of agreement section 11.5. Revisions of the PMP shall address RCRA MLLW and TRUM waste and will consider and expressly evaluate the impact on M-091 retrieval, treatment and processing capabilities that may result from retrieval, treatment and/or processing of any other TRUM waste including but not limited to offsite TRUM waste and Hanford Site TRUM waste generated after January 1, 2003.</p> <p>Annual revisions of the PMP will be submitted on June 30 every year starting in 2008 and continuing until the M-091 milestones are completed. The PMP revisions shall include plans and schedules to meet all the requirements set forth in the M-091 milestone series. Each revision of the M-091-03 PMP shall, upon approval by Ecology, supersede previous M-091-03 PMPs.</p> <p>The PMP will include a description of completed and scheduled work relating to RH waste and large containers of RH and CH waste performed in accordance with the requirements of the M-091 milestone series. The PMP will document work completed during the previous federal fiscal year and work scheduled for the coming fiscal year. The PMP shall identify by citation all publicly available reports describing pertinent project issues and accomplishments, and shall identify anticipated projects for the coming year.</p> <p>With respect to RH TRUM waste, large container TRUM waste, RH MLLW and large container MLLW; the PMP submitted yearly will specifically include at least one measurable action to be taken by DOE to acquire capabilities to manage such wastes.</p> <p>PMP revisions will be submitted to Ecology for review and approval as primary documents pursuant to agreement action plan section 9.2.1. DOE shall implement the plan as approved.</p>	Due Date Annually By June 30
M-091-40	<p>Complete the retrieval and designation of CH RSW in burial grounds 218-W-4B, 218-W-3A and 218-E-12B.</p> <ol style="list-style-type: none"> 1. If specific large containers cannot be removed from a trench within 60 days of being exposed DOE shall notify Ecology within the 60-day period. Ecology will inspect the containers and impose specific conditions for that waste container to prevent releases to the environment. In determining such conditions Ecology will consider among other factors; whether the waste containers has been inspected and found to be intact and not posing a threat to human health and the environment (or re-packaged to prevent release to the environment) and existing documentation concerning the presence of free liquids. 2. As RSW retrieval proceeds, DOE shall sample and analyze trench 	09/30/2016

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	<p>substrates with the purposes of determining whether or not releases of contaminants to the environment have occurred, and, if so, the nature and extent of contamination.</p> <p>Such sampling and analysis shall be in accordance with Ecology approved sampling and analysis plans (SAP). DOE will implement approved SAPs, as a requirement of this milestone, during retrieval of all RSW.</p> <p>The results of burial ground vent and substrate sampling and analysis pursuant to approved SAPs shall be submitted to Ecology quarterly in the project managers' meetings for inclusion in the administrative record. Such reports shall document results and methodologies, shall assess results against regulatory requirements, shall include a description (or descriptions) of documented contaminant releases to the environment, and shall describe planned and/or scheduled additional work.</p> <p>3. Within 90 days of retrieval, DOE shall designate all CH RSW retrieved from the RSW trenches pursuant to the Washington Administrative Code (WAC) 173-303-070 through 100.</p>	
M-091-40T	Retrieve 2,000 cubic meters of CH RSW.	09/30/2011
M-091-40U-T01	Retrieve a minimum of 250 cubic meters of CH RSW in Fiscal Year 2012. Any volume retrieved above the 250 cubic meters shall count towards fulfillment of M-091-40X.	09/30/2012
M-091-40V-T01	Retrieve a minimum of 250 cubic meters of CH RSW in Fiscal Year 2013. Any volume retrieved above the 250 cubic meters shall count towards fulfillment of M-091-40X.	09/30/2013
M-091-40W-T01	Retrieve a minimum of 250 cubic meters of CH RSW in Fiscal Year 2014. Any volume retrieved above the 250 cubic meters shall count toward fulfillment of M-091-40X.	09/30/2014
M-091-40X	Retrieve a total of 1,250 cubic meters of CH RSW in Fiscal Year 2015.	09/30/2015
M-091-41	Complete the retrieval and designation of RH RSW (regardless of package size, including the 200 area caissons).	12/31/2018
M-091-41A	Complete Retrieval Of Non-Caisson RH RSW.	09/30/2016

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-091-42	<p>Complete the treatment of small container CH MLLW (in above ground storage as of June 30, 2009 and in retrievable storage) to meet applicable LDR treatment standards in compliance with WAC 173-303-140.</p> <ol style="list-style-type: none"> 1. Treatment of <i>CERCLA</i> waste and newly generated CH MLLW will not be counted toward meeting the volume requirements of this milestone. RSW determined to be MLLW in the treatability groups covered by this milestone will be counted toward meeting the volume requirements of this milestone when treated. 2. If the actual volume of retrieved CH MLLW covered by this milestone is lower than the estimated volumes anticipated by these milestones DOE will only be required to treat the volume of waste generated, retrieved and/or in storage. 	09/30/2017
M-091-43	Complete the treatment of large container CH MLLW and RH MLLW (in above ground storage as of June 30, 2009 and in retrievable storage) to applicable LDR treatment standards in compliance with WAC 173-303-140.	09/30/2017
M-091-44	<p>Complete the treatment of large container CH TRUM waste and RH TRUM waste (in above ground storage as of June 30, 2009 and in retrievable storage).</p> <p>DOE may choose to complete certification and shipment of TRUM waste for disposal at the Waste Isolation Pilot Plant (WIPP) in lieu of LDR treatment if, as of the time of shipment, such waste is exempt from LDR treatment standards when disposed at WIPP. Notification of certification in support of shipment will be reported at least annually as part of the project manager meetings or quarterly milestone review for inclusion in the administrative record.</p>	12/31/2030
M-091-44P	DOE shall designate all RH TRUM waste and large containers of CH TRUM waste currently in above ground storage (as of June 30, 2003) according to the requirements of WAC 173-303-070 through 100.	12/31/2012
M-091-44Q	<p>Certify a total of 300 cubic meters of large container CH TRUM waste and/or RH TRUM waste.</p> <p>Any volume certified above 300 cubic meters shall count toward fulfillment of subsequent milestones.</p>	09/30/2016
M-091-44R	<p>Certify a total of 300 cubic meters of large container CH TRUM waste and/or RH TRUM waste.</p> <p>Any volume certified above 300 cubic meters shall count toward fulfillment of subsequent milestones.</p>	09/30/2017

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-091-44S	Certify a total of 300 cubic meters of large container CH TRUM waste and/or RH TRUM waste.	09/30/2018
M-091-44T	Submit a change package for annual milestones to treat or certify and ship large container CH TRUM waste and RH-TRUM waste (in above ground storage as of June 30, 2009 and in retrievable storage) to complete the disposition of this waste.	09/30/2018
M-091-46	Complete the certification of small container CH TRUM waste (in above ground storage as of June 30, 2009 and in retrievable storage)	09/30/2017
M-091-46A	Certify 850 cubic meters of small container CH TRUM waste.	09/30/2011
M-091-46B-T01	Certify 300 cubic meters of small container CH TRUM waste. Any volume certified above the 300 cubic meters shall count towards fulfillment of M-091-46E.	09/30/2012
M-091-46C-T02	Certify 125 cubic meters of small container CH TRUM waste. Any volume certified above the 125 cubic meters shall count towards fulfillment of M-091-46E.	09/30/2013
M-091-46D-T03	Certify 125 cubic meters of small container CH TRUM waste. Any volume certified above the 125 cubic meters shall count towards fulfillment of M-091-46E.	09/30/2014
M-091-46E	Certify 250 cubic meters of small container CH TRUM waste. Any volume certified above 250 cubic meters shall count toward fulfillment of subsequent milestones.	09/30/2015
M-091-46F	Certify 250 cubic meters of small container CH TRUM waste.	09/30/2016
M-091-46G	Complete offsite shipment of 1,000 cubic meters of small container CH TRUM waste.	09/30/2011
M-091-46H	Complete offsite shipment of all small container CH TRUM waste (in above ground storage as of June 30, 2009 and in retrievable storage).	09/30/2018

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
M-092-00	Complete acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for the storage, treatment/processing, and disposal of Hanford site cesium and strontium capsules (Cs/Sr), bulk sodium (Na), and 300 Area special waste (SCW).	To Be Established By October 1998
M-092-05	Determine disposition path and establish interim Agreement Milestones for Hanford Site Cs/Sr capsules. DOE will assess the viability of direct disposal of the Hanford Cs/Sr capsules at the national high-level waste repository and provide a schedule leading to its disposition. If DOE concludes that direct disposal is a viable and preferred alternative to vitrification, DOE will submit to Ecology specific documentation justifying its conclusion, with a proposed milestone change request establishing enforceable Agreement Milestones for dispositioning Hanford Cs/Sr capsules.	06/30/2017
M-092-09	Establish milestones and/or target dates if needed for acquisition of new facilities, modifications of existing facilities, and /or modification of planned facilities necessary for storage, treatment/processing, and disposal of Hanford site sodium.	09/30/2018
M-092-16	Complete removal and transfer, and initiate storage of Phase III 300 Area SCW waste and materials. Phase III inventory will consist of any remaining 300 Area SCW wastes and materials.	9/30/2015
M-093-00 Lead agency: Dual	Complete final disposition of all 100 Area Surplus Production Reactor buildings. 100 Area Surplus Production Reactor Buildings consist of the following: 105-D, 105-DR, 105-H, and 105/109-N (Ecology lead), and 105-B, 105-C, 105-F, 105-KE, and 105-KW (EPA lead).	To Be Determined
M-093-20	Complete 105-N reactor interim safe storage.	09/30/2012
M-093-22	Complete 105-KE reactor interim safe storage in accordance with the Remedial Design/Remedial Action Work Plan.	07/31/2014
M-093-26	Initiate 105-KW reactor interim safe storage.	12/31/2015
M-093-27	Complete 105-KW reactor interim safe storage.	12/31/2019
M-094-00	Complete disposition of 300 Area surplus facilities identified in the removal action work plan(s) for the 300 Area facilities. Completion of facility disposition is defined as the completion of deactivation, decontamination, decommissioning, and demolition and	09/30/2015

Appendix D. Milestones and Target Dates Including Designation of Lead Regulatory Agency

<u>Number</u>	<u>Milestone</u>	<u>Due Date</u>
	obtain EPA and/or Ecology approval of the appropriate project closeout documents. The cleanup of 300-FF-2 waste sites associated with 300 Area surplus facilities and utilities will be performed in accordance with Tri-Party Agreement major Milestone M-016-00B, M-016-69, and approved Remedial Design/Remedial Action Work Plans for 300 Area waste sites by the specified due date as approved in removal or Remedial Action Work Plans.	
M-094-08	<p>Complete the selected removal and/or remedial actions for 11 of the following high priority facilities: 305B, 306E, 306W, 307 Retention Basins, 308, 309, 321, 323, 324, 324B, 327, 333, 340, 340B, 3706, and 3720.</p> <p>The selected removal action for the facilities listed is or is expected to be completion of deactivation, decontamination, decommissioning, and demolition (D4) of the facility. In accordance with approved work plans, foundation, subsurface structures, and/or soil contamination can be deferred to a comprehensive remedial action program, but waste sites will be established in the interim to track this cleanup commitment.</p>	06/30/2012
M-094-09	<p>Complete the selected removal and/or remedial actions for 13 of the following high priority facilities: 305B, 306E, 306W, 307 Retention Basins, 308, 309, 321, 323, 324, 324B, 326, 327, 329, 333, 340, 340B, 3706, and 3720; to include the 323 facility.</p> <p>The selected removal action for the facilities listed is or is expected to be completion of deactivation, decontamination, decommissioning, and demolition (D4) of the facility. In accordance with approved work plans, foundation, subsurface structures, and/or soil contamination can be deferred to a comprehensive remedial action program, but waste sites will be established in the interim to track this cleanup commitment.</p>	09/30/2013